ABSTRACT

Chimeric GP molecules were constructed which contain portions of both the EBOV and MBGV GP proteins by swapping the subunits between EBOV and MBGV. The chimeric molecules were cloned into an alphavirus replicon which offers the advantage of high protein expression levels in mammalian cells and is a proven vaccine vector. These chimeric molecules fully protected guinea pigs from MBGV challenge, and conversely protected the animals from EBOV challenge. These results indicate that a protective epitope resides within the GP2 subunit of the MBGV GP protein and at least partially within the GP2 subunit of the EBOV GP protein. Additionally these results show that a construction of a single-component bivalent vaccine protective in guinea pigs is achievable.